

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior listing of claims for the present application.

Claim 1-12 (canceled).

13. (new) A linear motor comprising a first member including a magnetic body around which a coil is wound, wherein

the first member includes a first magnetic pole and a second magnetic pole;
each of the first and second magnetic poles comprise a plurality of magnetic pole teeth;

the magnetic pole teeth of the first magnetic pole and the magnetic pole teeth of the second magnetic pole are opposed to each other to form a plurality of opposed portions;

magnetic pole surfaces of the magnetic pole teeth constituting the opposed portions are alternately located in the adjacent opposed portions;

a second member comprising a flat plate comprising a permanent magnet is located between the magnetic teeth of the first magnetic pole and the magnetic teeth of the second magnetic pole;

each of the magnetic teeth has a step portion; and

the width of the step portion is smaller than that of the permanent magnet.

14. (new) A linear motor according to claim 13, wherein the single coil is wound around the magnetic body.

15. (new) A linear motor according to claim 13, wherein the height of the step portion is bigger than a gap between the magnetic pole teeth constituting the opposed portion.

16. (new) A linear motor according to claim 13, wherein the height of the step portion is smaller than the width of the permanent magnet.

17. (new) A linear motor comprising a first member including a magnetic body around which a coil is wound, and a second member comprising a flat plate comprising a permanent magnet, wherein

the first member includes a first magnetic pole and a second magnetic pole;

the first magnetic pole comprises a magnetic pole tooth disposed on one side of the second member, and a magnetic pole tooth disposed on the other side of the second member, the magnetic pole teeth being alternately disposed in a relative moving direction of the first and second member;

the second magnetic pole comprises a magnetic pole tooth disposed on one side of the second member, and a magnetic pole tooth disposed on the other side of the second member, the magnetic pole teeth being alternately disposed in a relative moving direction of the first and second member;

the magnetic pole tooth of the first magnetic pole on the one side of the second member and the magnetic pole tooth of the second magnetic pole on the other side of the second member are opposed to each other via a first gap;

the magnetic pole tooth of the first magnetic pole on the other side of the second member and the magnetic pole tooth of the second magnetic pole on the one side of the second member are opposed to each other via a second gap;

the second member is disposed in the first and second gaps;

the magnetic pole tooth disposed on the first magnetic pole or the magnetic pole tooth disposed on the second magnetic pole has a step portion; and

the width of the step portion is smaller than that of the permanent magnet.

18. (new) A linear motor according to claim 17, wherein the height of the step portion is bigger than a gap between the magnetic pole teeth constituting the opposed portion.

19. (new) A linear motor according to claim 17, wherein the height of the step portion is smaller than the width of the permanent magnet.

20. (new) A linear motor comprising a first member including a magnetic body around which a coil is wound, and a second member comprising a flat plate comprising a permanent magnet, wherein

the first member includes a first magnetic pole and a second magnetic pole;

the first magnetic pole comprises a first magnetic pole tooth disposed on one side of the second member, and a second magnetic pole tooth disposed on the other side of the second member, the first and second magnetic pole teeth being alternately disposed on the first magnetic pole;

the second magnetic pole comprises a first magnetic pole tooth disposed on one side of the second member, and a second magnetic pole tooth disposed on the other side of the second member, the first and second magnetic pole teeth being alternately disposed on the second magnetic pole;

the magnetic pole tooth of the first magnetic pole on the one side of the second member and the magnetic pole tooth of the second magnetic pole on the other side of the second member are opposed to each other via a first gap;

the magnetic pole tooth of the first magnetic pole on the other side of the second member and the magnetic pole tooth of the second magnetic pole on the one side of the second member are opposed to each other via a second gap;

the second member is disposed in the first and second gaps;

the magnetic pole tooth disposed on the first magnetic pole or the magnetic pole tooth disposed on the second magnetic pole has a step portion; and

the width of the step portion is smaller than that of the permanent magnet.

21. (new) A linear motor according to claim 20, wherein the height of the step portion is bigger than a gap between the magnetic pole teeth constituting the opposed portion.

22. (new) A linear motor according to claim 20, wherein the height of the step portion is smaller than the width of the permanent magnet.